



UNITED STATES DEPARTMENT OF COMMERCE

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F/SER31: NMB

FEB 6 2017

Chief, Miami Permits Section
Jacksonville District Corps of Engineers
Department of the Army
9900 Southwest 107th Avenue, Suite 203
Miami, Florida 33176

The enclosed Biological Opinion (“Opinion”) responds to your request for consultation with us, the National Marine Fisheries Service (NMFS), pursuant to Section 7 of the Endangered Species Act (ESA) for the following action.

Permit Number	Applicant	SER Number	Project Type
SAJ-2016-00783 (LP-NML)	Olivier Saba	SER-2016-17890	Dock and boatlift

The Opinion considers the effects of dock and boatlift installation on the following listed species and/or critical habitat: green, loggerhead, hawksbill, Kemp’s ridley, and leatherback sea turtles; smalltooth sawfish; Johnson’s seagrass; and Johnson’s seagrass critical habitat. NMFS concludes that the proposed action is not likely to adversely affect green, Kemp’s ridley, loggerhead, and hawksbill sea turtles and smalltooth sawfish. NMFS also concludes that the proposed action is not likely to result in the destruction or adverse modification of Johnson’s seagrass critical habitat. The Opinion includes conservation recommendations for your consideration.

We look forward to further cooperation with you on other USACE projects to ensure the conservation and recovery of our threatened and endangered marine species. If you have any questions regarding this consultation, please contact Nicole Bonine, Consultation Biologist, at (727) 824-5336, or by email at Nicole.Bonine@noaa.gov.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures:

Biological Opinion
Sea Turtle and Smalltooth Sawfish Construction Conditions, dated March 23, 2006
File: 1514-22 F.4




**Endangered Species Act - Section 7 Consultation
Biological Opinion**

Agency: United States Army Corps of Engineers (USACE), Jacksonville District

Activity: Proposed USACE issuance of a regulatory permit in Miami-Dade County, Florida (SAJ-2016-00783)

Consulting Agency: National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), Southeast Regional Office, Protected Resources Division, St. Petersburg, Florida

Approved By: 
Roy E. Crabtree, Ph.D., Regional Administrator
NMFS, Southeast Regional Office
St. Petersburg, Florida

Date Issued: Feb 6, 2017

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Glossary of Commonly Used Acronyms

ESA	Endangered Species Act
NE	No effect
NLAA	May affect, not likely to adversely affect
NMFS	National Marine Fisheries Service
USACE	U.S. Army Corps of Engineers

Units of Measurement

ac	acre(s)
ft	foot/feet
ft ²	feet squared
m	meter(s)

Background

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. § 1531 et seq.), requires that each federal agency ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species; Section 7(a)(2) requires federal agencies to consult with the appropriate Secretary on any such action. NMFS and the U.S. Fish and Wildlife Service share responsibilities for administering the ESA.

Consultation is required when a federal action agency determines that a proposed action “may affect” listed species or designated critical habitat. Consultation concludes after NMFS determines that the action is not likely to adversely affect listed species or critical habitat or issues a Biological Opinion (“Opinion”) that identifies whether a proposed action is likely to jeopardize the continued existence of a listed species, or destroy or adversely modify critical habitat.

This document represents NMFS’s Opinion based on our review of impacts associated with the proposed action to issue a permit within Miami-Dade County, Florida. This Opinion analyzes the project’s effects on threatened and endangered species and designated critical habitat, in accordance with Section 7 of the ESA. We based it on project information provided by the USACE and other sources of information, including the published literature cited herein.

1 CONSULTATION HISTORY

We received your letter requesting consultation on April 6, 2016. We requested additional information on May 19, 2016, and May 23, 2016. We received a final response on May 23, 2016, and initiated consultation that day.

2 DESCRIPTION OF THE PROPOSED ACTION AND ACTION AREA

2.1 Proposed Action

The applicant proposes to install a 202-square-foot (ft²) L-shaped dock and a boatlift. The site consists of a single-family residence with an armored seawall. A Biological Assessment was completed by Miami-Dade County's Department of Environmental Resources Management on October 13, 2015. Benthic conditions are described as supporting approximately 5-10% coverage of non-ESA listed seagrasses, algae, and sponges within the project footprint. No Johnson's seagrass, corals, hard bottom habitat, or mangroves were identified on-site. The proposed dock and boatlift will cover approximately 40 ft² of seagrasses.

Construction will require the installation of 7 new 12-inch wood piles installed by barge-mounted impact hammer with a crane. The applicant intends to store 1 new vessel at the property measuring 22 ft long and resulting in 166.5 ft² of shading. Construction is expected to be completed in 1-2 days.

2.2 Action Area

50 CFR § 404.02 defines action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action." The project is located at latitude 25.867479°N, longitude 80.129123°W (North American Datum 1983), adjacent to 8200 Hawthorne Avenue, Miami Beach, Miami-Dade County, Florida (Figure 1). For purposes of this consultation, NMFS will consider the action area to be the project footprint and surrounding waters within the channel.

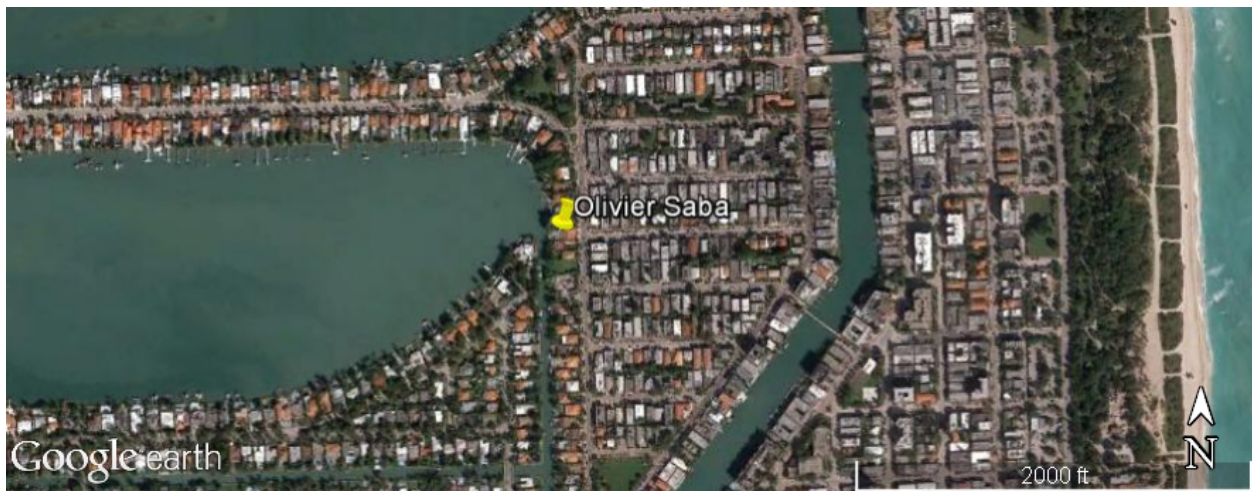


Figure 1. Image of the project locations and surrounding area (©2016 Google)

3 STATUS OF LISTED SPECIES AND CRITICAL HABITAT

We believe the species listed in Table 1 may be present within the action area and may be affected by the proposed project as explained in this section. The project is located in Johnson’s seagrass critical habitat (Unit J- Northern Biscayne Bay).

Table 1. Effects Determinations for Species the Action Agency or NMFS Believes May Be Affected by the Proposed Action

Species	ESA Listing Status	Action Agency Effect Determination	NMFS Effect Determination
Sea Turtles			
Green (North Atlantic distinct population segment [DPS])	T	NLAA	NLAA
Green (South Atlantic DPS)	T	NLAA	NLAA
Kemp’s ridley	E	NLAA	NLAA
Leatherback	E	NLAA	NE
Loggerhead (Northwest Atlantic Ocean DPS)	T	NLAA	NLAA
Hawksbill	E	NLAA	NLAA
Fish			
Smalltooth sawfish (U.S. DPS)	E	NLAA	NLAA
Invertebrates and Marine Plants			
Johnson’s seagrass	T	NLAA	NE
E = endangered; T = threatened; NLAA = may affect, not likely to adversely affect; NE = no effect			

We would not expect leatherback sea turtles to be present at the sites due to their very specific life history requirements which are not supported at or near the project sites. Leatherback sea turtles prefer open, deepwater habitat where they forage primarily on jellyfish.

The project is located within Johnson’s seagrass critical habitat Unit J; however, no Johnson’s seagrass was identified during the benthic survey. Thus, the action will not affect Johnson’s seagrass. The effects to Johnson’s seagrass critical habitat are discussed below in Section 5.

3.1 Species Not Likely to be Adversely Affected

We believe that sea turtles (green, loggerhead, hawksbill, and Kemp’s ridley), and smalltooth sawfish may be found in or near the action area and may be affected by the installation of the dock and boatlift. Potential effects include the risk of injury due to interaction with construction equipment including barges. We believe the chance of direct physical injury from interactions with mechanical equipment and associated barges is discountable as these species are mobile and are likely to avoid the areas during construction. Adherence to NMFS’s *Sea Turtle and Smalltooth Sawfish Construction Conditions* will further help workers spot ESA-listed species near the project area and avoid interactions with these species during construction.

The use of turbidity curtains may temporarily limit the ability for sea turtles and smalltooth sawfish to access the project area for use as foraging and refuge habitat. However, based on the relatively small size of the action area and limited number of construction days, we find that these effects will be so small that they are not detectable, and therefore they are insignificant. These species are likely to move away from the construction areas. Additionally, there are undisturbed areas of similar habitat nearby available to these species for foraging and refuge.

Construction of the dock and boatlift will result in removal or shading of approximately 40 ft² of seagrasses along the shoreline that may be used by green sea turtles for foraging and may affect sponges on-site that may be used by hawksbill sea turtles for foraging. However, seagrasses and sponges will remain along the rest of the property shoreline and throughout Biscayne Bay. No mangroves that may be used by juvenile smalltooth sawfish for refuge were observed on site. Therefore, we believe that any effect to sea turtles or smalltooth sawfish from loss of forage or shelter habitat will be insignificant.

Sea turtles could be adversely affected by the increase in vessel traffic which will result from the one new vessel proposed to be stored at the new dock and boatlift, since more vessels may escalate the risk of collisions with these species. However, we believe the risk of adverse effects to sea turtles from vessel strikes will be discountable. A NMFS Protected Resource Division analysis¹ determined that it would take an introduction of at least 300 new vessels to an area to result in a take of 1 sea turtle in any single year. Smalltooth sawfish would be unaffected by vessel traffic because of their bottom dwelling habits.

The proposed project will require the installation of 7 new 12-in wood piles installed by impact hammer. Effects to listed species as a result of noise created by construction activities can physically injure animals in the affected areas or change animal behavior in the affected areas. Injurious physical effects can occur in 2 ways. First, immediate adverse effects can occur to listed species if a single noise event exceeds the threshold for direct physical injury. Second, effects can result from prolonged exposure to noise levels that exceed the daily cumulative exposure threshold for the animals, and these can constitute adverse effects if animals are exposed to the noise levels for sufficient periods. Behavioral effects can be adverse if such effects prevent animals from migrating, feeding, resting, or reproducing, for example. Our evaluation of effects to listed species as a result of noise created by construction activities is based on the analysis prepared in support of the Opinion for SAJ-82.² The noise analysis in this consultation evaluates effects to ESA-listed fish (i.e., smalltooth sawfish) and sea turtles identified by NMFS as potentially affected in Table 1, above.

Based on our noise calculations, the installation of wood piles by impact hammer will not cause single-strike or peak-pressure injury to sea turtles or ESA-listed fish. The cumulative sound exposure level (cSEL) of multiple pile strikes over the course of a day may cause injury to ESA-listed fishes and sea turtles at a radius of up to 30 ft (9 meters [m]). Due to the mobility of sea turtles and ESA-listed fish species, we expect them to move away from noise disturbances.

¹ Barnette, M. 2013. Threats and Effects Analysis for Protected Resources on Vessel Traffic Associated with Dock and Marina Construction. NMFS SERO PRD Memorandum. April 18, 2013.

² NMFS. Biological Opinion on Regional General Permit SAJ-82 (SAJ-2007-01590), Florida Keys, Monroe County, Florida. June 10, 2014.

Because we anticipate the animals will move away, we believe that an animal's suffering physical injury from noise is extremely unlikely to occur. Even in the unlikely event an animal does not vacate the daily cumulative injurious impact zone, the radius of that area is smaller than the 50-ft radius that will be visually monitored for listed species. Construction personnel will cease construction activities if an animal is sighted per NMFS's *Sea Turtle and Smalltooth Sawfish Construction Conditions*. Thus, we believe the likelihood of any injurious cSEL effects is discountable. An animal's movement away from the injurious impact zone is a behavioral response, with the same effects discussed below.

Based on our noise calculations, impact hammer pile installation could also cause behavioral effects at radii of 151 ft (46 m) for sea turtles and 705 ft (215 m) for ESA-listed fishes. Due to the mobility of sea turtles and ESA-listed fish species, we expect them to move away from noise disturbances. Because there is similar habitat nearby, we believe behavioral effects will be insignificant. If an individual chooses to remain within the behavioral response zone, it could be exposed to behavioral noise impacts during pile installation. Since installation will occur only during the day, these species will be able to resume normal activities during quiet periods between pile installations and at night. Therefore, we anticipate any behavioral effects will be insignificant.

3.2 Critical Habitat Likely to be Adversely Affected

The term "critical habitat" is defined in Section 3(5)(A) of the ESA as (i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (1) essential to the conservation of the species and (2) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" is defined in Section 3(3) of the ESA as "...the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which listing under the ESA is no longer necessary."

The construction of the dock and boatlift may adversely affect Johnson's seagrass critical habitat both directly from the placement of piles and indirectly from shading resulting from the construction of an overwater structure and vessel mooring.

Johnson's Seagrass Critical Habitat

Description

NMFS designated Johnson's seagrass critical habitat on April 5, 2000 (65 FR 17786; see also, 50 CFR§ 226.213). The specific areas occupied by Johnson's seagrass and designated by NMFS as critical habitat are those with 1 or more of the following criteria:

1. Locations with populations that have persisted for 10 years
2. Locations with persistent flowering populations
3. Locations at the northern and southern range limits of the species
4. Locations with unique genetic diversity

5. Locations with a documented high abundance of Johnson’s seagrass compared to other areas in the species’ range

Ten areas (Units) within the range of Johnson’s seagrass (approximately 200 kilometers of coastline from Sebastian Inlet to northern Biscayne Bay, Florida) are designated as Johnson’s seagrass critical habitat (Table 2). The total range-wide acreage of critical habitat for Johnson’s seagrass is roughly 22,574 acres (ac) (67 FR 13098 2002).

Table 2. Designated Critical Habitat Units for Johnson’s Seagrass

Unit A	A portion of the Indian River, Florida, north of the Sebastian Inlet Channel
Unit B	A portion of the Indian River, Florida, south of the Sebastian Inlet Channel
Unit C	A portion of the Indian River Lagoon, Florida, in the vicinity of the Fort Pierce Inlet
Unit D	A portion of the Indian River Lagoon, Florida, north of the St. Lucie Inlet
Unit E	A portion of Hobe Sound, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
Unit F	A portion of the south side of Jupiter Inlet, Florida
Unit G	A portion of Lake Worth, Florida, north of Bingham Island
Unit H	A portion of Lake Worth Lagoon, Florida, located just north of the Boynton Inlet
Unit I	A portion of northeast Lake Wyman, Boca Raton, Florida, excluding the federally marked navigation channel of the Intracoastal Waterway
Unit J	A portion of northern Biscayne Bay, Florida, including all parts of the Biscayne Bay Aquatic Preserve excluding the Oleta River, Miami River, and Little River beyond their mouths, the federally marked navigation channel of the Intracoastal Waterway, and all existing federally authorized navigation channels, basins, and berths at the Port of Miami to the currently documented southernmost range of Johnson’s seagrass, Central Key Biscayne

The physical habitat that supports Johnson’s seagrass includes both shallow intertidal and deeper subtidal zones. The species thrives either in water that is clear and deep (2-5 m) or in water that is shallow and turbid. In tidal channels, it inhabits coarse sand substrates. The spread of the species into new areas is limited by its reproductive potential. Johnson’s seagrass possesses only female flowers; thus, vegetative propagation, most likely through asexual branching, appears to be its only means of reproduction and dispersal. If an established community is disturbed, regrowth and reestablishment are extremely unlikely. This species’ method of reproduction impedes the ability to increase distribution as establishment of new vegetation requires considerable stability in environmental conditions and protection from human-induced disturbances.

Essential Features of Critical Habitat

NMFS identified 4 habitat features essential for the conservation of Johnson’s seagrass: (1) adequate water quality, defined as being free from nutrient over-enrichment by inorganic and organic nitrogen and phosphorous or other inputs that create low oxygen conditions; (2) adequate

salinity levels, indicating a lack of very frequent or constant discharges of fresh or low-salinity waters; (3) adequate water transparency, which would allow sunlight necessary for photosynthesis; and (4) stable, unconsolidated sediments that are free from physical disturbance. All 4 essential features must be present in an area for it to function as critical habitat for Johnson's seagrass.

Critical Habitat Unit Impacted by this Action

This consultation focuses on activities that occur in Unit J, which encompasses the northern portion of Biscayne Bay from Northeast 163rd Street south to Central Key Biscayne at 25°45' N (Figure 2). This portion of Biscayne Bay is bound by heavy residential and commercial development, though a few areas of mangrove shoreline remain. Dredge and fill projects have resulted in a number of spoil islands and channels too deep for seagrass growth. Biscayne Bay supports a diversity of biological communities including intertidal wetlands, seagrasses, hard bottom, assemblages, and open water. Unit J is wholly within the Biscayne Bay Aquatic Preserve.

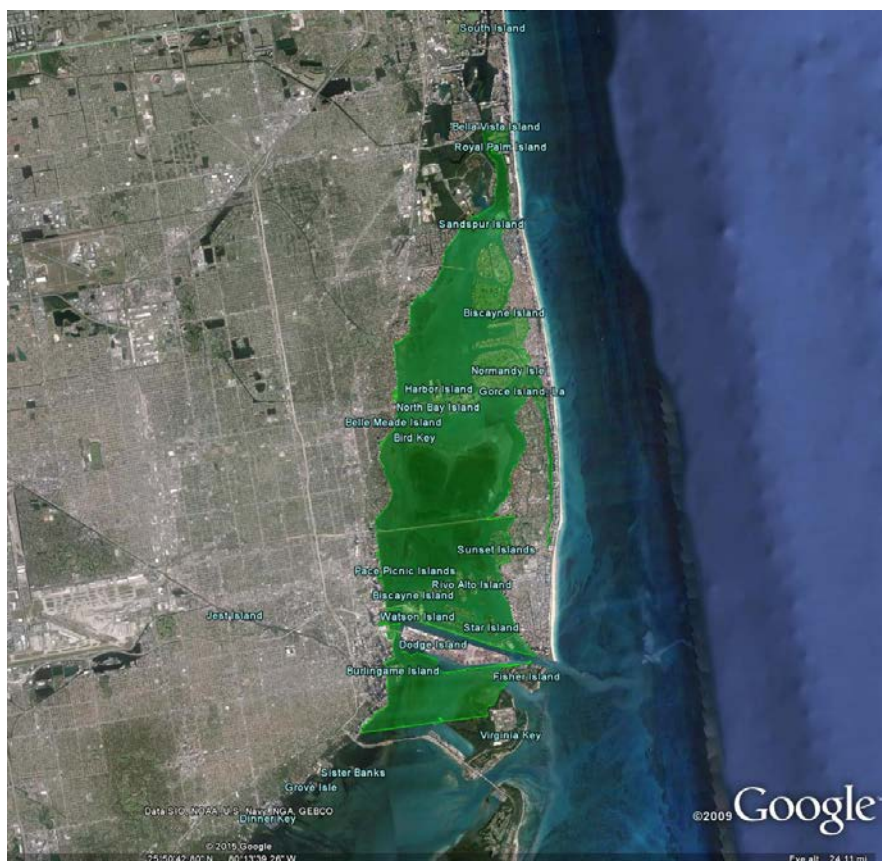


Figure 2. Johnson's sea grass critical habitat Unit J (©2015 Google, Data SIO, NOAA, U.S. Navy, NGA, GEBCO)

Status and Threats

A wide range of activities, many funded authorized or carried out by federal agencies, have and will continue to affect the essential habitat requirements of Johnson's seagrass. These are generally the same activities that may affect the species itself, and include (1) vessel traffic and the resulting propeller dredging; (2) dredge and fill projects; (3) dock, marina, and bridge

construction; (4) water pollution; and (5) land use practices (shoreline development, agriculture, and aquaculture).

Vessel traffic has the potential to affect Johnson's seagrass critical habitat by reducing water transparency. Operation of vessels in shallow water environments often leads to the suspension of sediments due to the spinning of propellers on or close to the bottom. Suspended sediments reduce water transparency and the depth to which sunlight penetrates the water column. Populations of Johnson's seagrass that inhabit shallow water and water close to inlets where vessel traffic is concentrated are likely to be most affected. This effect is expected to worsen with increases in boating activity.

The dredging of bottom sediments to maintain, or in some cases create, inlets, canals, and navigation channels can directly affect essential features of Johnson's seagrass critical habitat. Dredging results in turbidity through the suspension of sediments. As discussed previously, the suspension of sediments reduces water transparency and the depth to which sunlight can penetrate the water column. The suspension of sediments from dredging can also resuspend nutrients, which could result in over-enrichment and/or reduce dissolved oxygen levels. Further, dredging can destabilize sediments and alter both the shape and depth of the bottom within the dredged footprint. This may affect the ability of the critical habitat to function through the removal or modification of essential features.

Dock, marina, and bridge construction leads to loss of habitat via construction impacts (e.g., pile installation) and shading. Similar to dredging, installation of piles for docks or bridges can result in increased turbidity that can negatively impact water transparency over short durations. Additionally, installed piles also replace the stable, unconsolidated bottom sediments essential for the species. Completed structures can have long-term effects on critical habitat in the surrounding area because of the shade they produce. While shading does not affect water transparency directly, it does affect the amount and/or duration of sunlight that can reach the bottom. The threat posed by dock, marina, and bridge construction is especially apparent in coastal areas where Johnson's seagrass is found.

Other threats include inputs from water pollution and adjacent land use. Johnson's seagrass critical habitat located in proximity to rivers, canal mouths, or other discharge structures is affected by land use within the watershed. Waters with low salinity that are highly colored and often polluted are discharged to the estuarine environment. This can impact salinity, water quality, and water transparency, all essential features of Johnson's seagrass critical habitat. Frequent pulses of freshwater discharge to an estuarine area may decrease salinity of the habitat and provoke physiological stress to the species. Nutrient over-enrichment, caused by inorganic and organic nitrogen and phosphorous loading via urban and agricultural land run-off, stimulates increased algal growth, decreased water transparency, and diminished oxygen content within the water. Low oxygen conditions have a demonstrated negative impact on seagrasses and associated communities. Discharges can also contain colored waters stained by upland vegetation or pollutants. Colored waters released into these areas reduce the amount of sunlight available for photosynthesis by rapidly reducing the amount of shorter wavelength light that reaches the bottom. In general, threats from adjacent land use will be ongoing, randomly occurring events that follow storm events.

4 ENVIRONMENTAL BASELINE

This section is a description of the past and ongoing human and natural factors leading to the current status of designated critical habitat within the action areas. The environmental baseline includes state, tribal, local, and private actions already affecting the designated critical habitat that will occur contemporaneously with the actions under consultation. Unrelated federal actions affecting Johnson's seagrass designated critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are federal and other actions within the action areas that may benefit the species or its critical habitat. This Opinion describes these activities in the sections below.

4.1 Status of Johnson's Seagrass Critical Habitat within the Action Area

As discussed above, this consultation focuses on activities occurring in Unit J, which encompasses the northern portion of Biscayne Bay from NE 163rd Street south to Central Key Biscayne at 25° 45' N (Figure 9). This portion of Biscayne Bay is bound by heavy residential and commercial development, though a few areas of mangrove shoreline remain. Dredge-and-fill projects have resulted in a number of spoil islands and channels too deep for seagrass growth. Biscayne Bay supports a diversity of biological communities including intertidal wetlands, seagrasses, hard bottom, assemblages, and open water. Unit J is wholly within the Biscayne Bay Aquatic Preserve.

4.2 Factors Affecting Johnson's Seagrass Critical Habitat in the Action Area

Federal Actions

A wide range of activities funded, authorized, or carried out by federal agencies may affect the essential features of critical habitat for Johnson's seagrass. These include actions permitted or implemented by the USACE such as dredging; dock/marina construction; bridge/highway construction; residential construction; shoreline stabilization; breakwaters; and the installation of subaqueous lines or pipelines. Other federal activities that may affect Johnson's seagrass critical habitat include actions by the Environmental Protection Agency and the USACE to manage freshwater discharges into waterways; management of National Parks; regulation of vessel traffic to minimize propeller dredging and turbidity; and other activities by the U.S. Coast Guard and U.S. Navy. Although these actions have probably affected Johnson's seagrass critical habitat, none of these past actions have destroyed or adversely modified Johnson's seagrass critical habitat.

The Miami-Dade Programmatic General Permit (SAJ-42) authorizes docks that may affect Johnson's seagrass and its designated critical habitat. NMFS issued an Opinion concerning the Programmatic General Permit on February 10, 2011, and the USACE issued the permit on April 29, 2013.

According to NMFS's Public Consultation Tracking System database, there have been no ESA Section 7 consultations completed on activities with the potential to affect Johnson's seagrass designated critical habitat within the action area.

Private Recreational Vessel Traffic

Marina and dock construction increases recreational vessel traffic within areas of Johnson's seagrass critical habitat, which increases suspended sediments from propellers and could result in propeller dredging. As mentioned above, suspended sediments are known to adversely affect Johnson's seagrass critical habitat by reducing the water transparency essential feature. Shading from dock structures and vessel mooring also affects the water transparency essential feature of the designated critical habitat. Propeller dredging and installation of pilings and bridge support structures permanently removes the unconsolidated sediments essential feature of the critical habitat.

Marine Pollution and Environmental Contamination

The project is located in a highly developed coastal area with an extensive canal system. This can lead to freshwater discharges and nutrient over-enrichment due to coastal runoff and canal discharges into the bay. Freshwater discharge affects the salinity essential feature of the designated critical habitat while excess nutrients can lead to decreased water transparency and decreased dissolved oxygen content in the water.

State and Federal Activities That May Benefit Johnson's Seagrass Critical Habitat in the Action Area

State and federal conservation measures exist to protect Johnson's seagrass and its habitat under an umbrella of management and conservation programs that address seagrasses in general (Kenworthy et al. 2006). These conservation measures must be continually monitored and assessed to determine if they will ensure the long-term protection of the species and the maintenance of environmental conditions suitable for its continued existence throughout its geographic distribution.

5 EFFECTS OF THE ACTION ON CRITICAL HABITAT

5.1 Johnson's Seagrass Critical Habitat

The proposed project will directly affect 5.5 ft² (7 new 12-in-diameter per pile calculated using the area of circle: $\text{area} = \pi \text{radius}^2$) of Johnson's seagrass critical habitat from the placement of piles and indirectly effect 202 ft² from dock shading plus an additional 166.5 ft² from vessel shading. Given the presence of other species of seagrass, NMFS believes that all 4 essential features are present in the action area; however, we believe that the proposed action is likely to adversely affect only the water transparency and the unconsolidated sediments essential features. The placement of the dock and storage of the vessel at the boatlift will affect the conservation function of the area by indefinitely removing sunlight necessary for photosynthesis, impacting the water transparency essential feature of the designated critical habitat. Further, placement of piles will affect the conservation function of the area by permanently removing the unconsolidated sediments essential feature of the designated critical habitat. Although the installation of the piles will have a temporary effect on Johnson's seagrass critical habitat by increasing turbidity (i.e., affect water transparency), this effect is expected to be insignificant because it will be contained to the immediate area by the placement of turbidity curtains that will remain in place until construction is complete and water transparency has returned to pre-construction conditions. Thus, the proposed activities are expected to result in the loss of 368.5 ft² (0.008 ac) of Johnson's seagrass critical habitat. The loss of the 5.5 ft² from pile placement

under the dock is already accounted for with the loss of the dock above it and so was not counted separately.

5.2 Cumulative Effects

Cumulative effects include the effects of future state, tribal, or local private actions that are reasonably certain to occur in the action areas considered in this Opinion. Future federal actions that are unrelated to the proposed actions are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA.

No categories of effects beyond those already described are expected in the action area. Dock and marina construction will likely continue at current rates, with concomitant loss and degradation of Johnson's seagrass critical habitat. These activities are subject to USACE permitting which will require a subsequent ESA Section 7 consultation, and thus, would not lead to cumulative non-federal effects. Furthermore, NMFS and the USACE have developed protocols to encourage the use of light-transmitting materials in future construction of docks within the range of Johnson's seagrass. Even if all new docks are constructed in full compliance with the NMFS and USACE's *Construction Guidelines for Minor Piling-Supported Structures in or over SAV, Marsh or Mangrove Habitat*, there will still be shading impacts (i.e. the reduction of the light transparency essential feature) to Johnson's seagrass critical habitat from new docks (although shading impacts would be reduced if guidelines are followed). As NMFS and the USACE continue to encourage permit applicants to design and construct new docks in full compliance with NMFS and USACE's *Construction Guidelines for Minor Piling-Supported Structures in or over SAV, Marsh or Mangrove Habitat*, the NMFS and USACE's *Key for Construction Conditions for Docks or Other Minor Structures Constructed in or over Johnson's Seagrass (Halophila johnsonii)*, and the recommendations in Dobbs et al. (2007) and Shafer et al. (2008), NMFS believes that shading impacts to Johnson's seagrass critical habitat will be reduced in the short- and long-term.

Upland development and associated runoff will continue to degrade the water quality essential feature necessary for Johnson's seagrass critical habitat. Flood control and imprudent water management practices will continue to result in freshwater inputs into estuarine systems, thereby degrading and altering the water quality and salinity essential features of Johnson's seagrass critical habitat.

Increased recreational vessel traffic will continue to result in damage to Johnson's seagrass and its designated critical habitat by improper anchoring, propeller scarring, and accidental groundings. Nevertheless, we expect that ongoing boater education programs and posted signage about the dangers to seagrass habitat from propeller scarring and improper anchoring may reduce impacts to Johnson's seagrass designated critical habitat.

6 DESTRUCTION/ADVERSE MODIFICATION ANALYSIS

NMFS' regulations define *Destruction or adverse modification* to mean a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical or biological features essential to the conservation of a species or that preclude or significantly

delay development of such features (50 CFR § 402.02). Other alterations that may destroy or adversely modify critical habitat may include impacts to the area itself, such as those that would impede access to or use of the essential features. We intend the phrase “significant delay” in development of essential features to encompass a delay that interrupts the likely natural trajectory of the development of physical and biological features in the designated critical habitat to support the species’ recovery. NMFS will generally conclude that a Federal action is likely to “destroy or adversely modify” designated critical habitat if the action results in an alteration of the quantity or quality of the essential physical or biological features of designated critical habitat, or that precludes or significantly delays the capacity of that habitat to develop those features over time, and if the effect of the alteration is to appreciably diminish the value of critical habitat for the conservation of the species. This analysis takes into account the geographic and temporal scope of the proposed action, recognizing that “functionality” of critical habitat necessarily means that it must now and must continue in the future to support the conservation of the species and progress toward recovery. Destruction or adverse modification does not depend strictly on the size or proportion of the area adversely affected, but rather on the role the action area serves with regard to the function of the overall designation, and how that role is affected by the action.

Recovery for Johnson's seagrass, as described in the recovery plan, will be achieved when the following recovery objectives are met: (1) the species’ present geographic range remains stable for at least 10 years, or increases; (2) self-sustaining populations are present throughout the range at distances less than or equal to the maximum dispersal distance to allow for stable vegetative recruitment and genetic diversity; and (3) populations and supporting habitat in its geographic range have long-term protection (through regulatory action or purchase acquisition). We review the project’s expected impacts on critical habitat to determine whether it will be able to continue to provide its intended functions in achieving these recovery objectives.

In Section 5.1, we determined that the proposed projects will result in the combined loss of 368.5 ft² (0.008 ac) of Johnson’s seagrass critical habitat from permanent direct construction impacts and shading from the structure and vessels. We believe the placement of piles on the sediment will have a direct adverse effect on the stable, consolidated sediments that are free from physical disturbance essential feature. Additionally, the construction of dock and mooring of vessel will impact the adequate water transparency essential feature, which would allow sunlight necessary for photosynthesis essential feature were the docks and vessels not present. As discussed in Section 3.2, there are approximately 22,574 ac of total Johnson’s seagrass critical habitat. The loss of up to 368.5 ft² (0.008 ac) of Johnson’s seagrass critical habitat overall, would equate to a loss of 0.00004% of total Johnson’s seagrass critical habitat (0.008 ac x 100 /22,574 ac).

The first recovery criterion for Johnson’s seagrass is for its present range to remain stable for 10 years or to increase during that time. The loss of 368.5 ft² (0.008 ac) of Johnson’s seagrass critical habitat is not likely to impede the first recovery criterion. NMFS’s 5-year review (NMFS 2007) of the status of the species concluded that the first recovery objective has been achieved. In fact, the range had increased slightly northward at that time and we have no new information indicating range stability has decreased since then. No Johnson’s seagrass is growing within the action area, and the loss of the small area impacted by the proposed actions for potential colonization will not affect the stability of the species’ range now or in the future. The proposed

action's effects will not impact the critical habitat's ability to contribute to range stability for Johnson's seagrass.

The second recovery criterion for Johnson's seagrass requires that self-sustaining populations be present throughout the range at distances less than or equal to the maximum dispersal distance for the species. Due to its asexual reproductive mode, self-sustaining populations are present throughout the range of the species. The species' overall reproductive capacity will not be reduced because there will be no reduction in Johnson's seagrass. According to the Johnson's seagrass recovery plan, there are 18,757 ac of Johnson's seagrass critical habitat within Unit J. The permanent loss of 0.00004 % of Johnson's seagrass critical habitat in Unit J will not affect the conservation value of available critical habitat to the extent that it would impact Johnson's seagrass self-sustaining populations by adversely affecting the availability of suitable habitat in which the species can spread/flow in the future. Drifting fragments of Johnson's seagrass can remain viable in the water column for 4-8 days (Hall et al. 2006), and can travel several kilometers under the influence of wind, tides, and waves. Because of this, we believe that the permanent removal of 368.5 ft² (0.008 ac) of critical habitat will not adversely diminish the conservation value of critical habitat supporting self-sustaining populations.

The final recovery criterion is for populations and supporting habitat in the geographic range of Johnson's seagrass to have long-term protection (through regulatory action or purchase acquisition). Though the affected portion of the project sites will not be available for the long-term, thousands of acres of designated critical habitat are still available for long-term protection, which would include areas surrounding the action area. Therefore, we conclude that the proposed action's adverse effects on Johnson's seagrass critical habitat will not adversely diminish the conservation value of critical habitat supporting this recovery objective.

Therefore, we conclude that the proposed action's adverse effects to Johnson's seagrass critical habitat will not adversely diminish the critical habitat's conservation value for supporting the recovery objectives listed above.

7 CONCLUSION

We have analyzed the best available data, the current status of the species, environmental baseline, effects of the proposed action, and cumulative effects to determine whether the proposed action is likely to destroy or adversely modify Johnson's seagrass critical habitat. It is our Opinion that the proposed action is likely to adversely affect, but not likely to destroy or adversely modify Johnson's seagrass critical habitat.

8 CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

NMFS believes the following conservation recommendations are reasonable, necessary, and appropriate to conserve and recover Johnson's seagrass. NMFS strongly recommends that these measures be considered and adopted.

1. NMFS recommends that a report of all current and proposed USACE projects in the range of Johnson's seagrass be prepared and used by the USACE to assess impacts on the species from these projects, to assess cumulative impacts, and to assist in early consultation that will avoid and/or minimize impacts to Johnson's seagrass and its critical habitat. Information in this report should include location and scope of each project and identify the federal lead agency for each project. The information should be made available to NMFS.
2. NMFS recommends that the USACE conduct and support research to assess trends in the distribution and abundance of Johnson's seagrass. Data collected should be contributed to the Florida Fish and Wildlife Conservation Commission's Florida Wildlife Research Institute to support ongoing geographic information system mapping of Johnson's seagrass and other seagrass distribution.
3. NMFS recommends that the USACE, in coordination with seagrass researchers and industry, support ongoing research on light requirements and transplanting techniques to preserve and restore Johnson's seagrass, and on collection of plants for genetics research, tissue culture, and tissue banking.
4. NMFS recommends that the USACE prepare an assessment of the effects of other actions under its purview on Johnson's seagrass for consideration in future consultations.
5. NMFS recommends that the USACE continue promoting the use of the October 2002, *Key for Construction Conditions for Docks or other Minor Structures Constructed in or over Johnson's Seagrass (Halophila johnsonii)* as the standard construction methodology for proposed docks located in the range of Johnson's seagrass.
6. NMFS recommends that the USACE review and implement the recommendations in the July 2008 report, *The Effects of Docks on Seagrasses, With Particular Emphasis on the Threatened Seagrass, Halophila johnsonii* (Landry et al. 2008).
7. NMFS recommends that the USACE review and implement the Conclusions and Recommendations in the October 2008 report, *Evaluation of Regulatory Guidelines to Minimize Impacts to Seagrasses from Single-family Residential Dock Structures in Florida and Puerto Rico* (Shafer et al. 2008).

9 REINITIATION OF CONSULTATION

As provided in 50 CFR§ 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of taking specified in the proposed action is exceeded, (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, (3) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the Biological Opinion, or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

10 LITERATURE CITED

67 FR 13098. 2002. Sea Turtle Conservation; Restrictions to Fishing Activities. Interim final rule. Federal Register 67(55):13098-13101.

Dobbs, K. A., J. D. Miller, D. W. Owens, and A. M. Landry Jr. 2007. Serum testosterone and Estradiol-17 β levels during the peak nesting period in a year-round nesting population of hawksbill turtles, *Eretmochelys imbricata* L. . Pacific Conservation Biology 13:151-157.

Hall, L. M., M. D. Hanisak, and R. W. Virnstein. 2006. Fragments of the seagrasses *Halodule wrightii* and *Halophila johnsonii* as potential recruits in Indian River Lagoon, Florida. Marine Ecology Progress Series 310:109-117.

Kenworthy, W., S. Wyllie-Echeverria, R. Coles, G. Pergent, and C. Pergent-Martini. 2006. Seagrass Conservation Biology: An Interdisciplinary Science for Protection of the Seagrass Biome. Pages 595-623 in A. W. D. Larkum, R. J. Orth, and C. M. Duarte, editors. Seagrasses: Biology, Ecology and Conservation. Springer Netherlands.

Landry, J. B., W. J. Kenworthy, and G. D. Carlo. 2008. The effects of docks on seagrasses, with particular emphasis on the threatened seagrass, *Halophila johnsonii*. Report submitted to NMFS Office of Protected Resources.

NMFS. 2007. Endangered Species Act 5-year review: Johnson's seagrass (*Halophila johnsonii* Eiseman). National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Silver Spring, Maryland.

Shafer, D. J., J. Karazsia, L. Carrubba, and C. Martin. 2008. Evaluation of regulatory guidelines to minimize impacts to seagrasses from single-family residential dock structures in Florida and Puerto Rico. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006